



#11

7201SL

SEQUENCE LISTING

<110> Genzyme Corporation
Schiavi, Susan
Madden, Stephen L.
Manavalan, Parthasarathy
Levine, Michael
Jan de Beur, Suzanne

<120> PHOSPHATONIN-RELATED GENE AND METHODS OF
USE THEREOF

<130> GZ 2065.23

<140> US 09/909,775

<141> 2001-07-19

<150> US 60/219,365

<151> 2000-07-19

<150> US 60/261,438

<151> 2001-01-12

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Leu His Leu Ala Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg
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Ile Pro Met Cys Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn
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His Leu His His Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Glu Gln
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Tyr Glu Glu Leu Val Asp Val Asn Cys Ser Ala Val Leu Arg Phe Phe
65 70 75

ttc tgt gcc atg tac gcg ccc att tgc acc ctg gag ttc ctg cac gac 532
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| | | | | | | | | | | | | | | | | | |
|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|--|
| Phe | Cys | Ala | Met 80 | Tyr | Ala | Pro | Ile | Cys 85 | Thr | Leu | Glu | Phe | Leu 90 | His | Asp | | |
| cct | atc | aag | ccg | tgc | aag | tcg | gtg | tgc | caa | cgc | gcg | cgc | gac | gac | tgc | 580 | |
| Pro | Ile | Lys 95 | Pro | Cys | Lys | Ser | Val 100 | Cys | Gln | Arg | Ala | Arg 105 | Asp | Asp | Cys | | |
| gag | ccc | ctc | atg | aag | atg | tac | aac | cac | agc | tgg | ccc | gaa | agc | ctg | gcc | 628 | |
| Glu | Pro | Leu | Met | Lys | Met | Tyr 115 | Asn | His | Ser | Trp | Pro 120 | Glu | Ser | Leu | Ala | | |
| tgc | gac | gag | ctg | cct | gtc | tat | gac | cgt | ggc | gtg | tgc | att | tcg | cct | gaa | 676 | |
| Cys 125 | Asp | Glu | Leu | Pro | Val 130 | Tyr | Asp | Arg | Gly | Val 135 | Cys | Ile | Ser | Pro | Glu 140 | | |
| gcc | atc | gtc | acg | gac | ctc | ccg | gag | gat | gtt | aag | tgg | ata | gac | atc | aca | 724 | |
| Ala | Ile | Val | Thr | Asp 145 | Leu | Pro | Glu | Asp | Val 150 | Lys | Trp | Ile | Asp | Ile 155 | Thr | | |
| cca | gac | atg | atg | gta | cag | gaa | agg | cct | ctt | gat | gtt | gac | tgt | aaa | cgc | 772 | |
| Pro | Asp | Met | Met 160 | Val | Gln | Glu | Arg | Pro 165 | Leu | Asp | Val | Asp | Cys 170 | Lys | Arg | | |
| cta | agc | ccc | gat | cgg | tgc | aag | tgt | aaa | aag | gtg | aag | cca | act | ttg | gca | 820 | |
| Leu | Ser | Pro 175 | Asp | Arg | Cys | Lys | Cys 180 | Lys | Lys | Val | Lys | Pro 185 | Thr | Leu | Ala | | |
| acg | tat | ctc | agc | aaa | aac | tac | agc | tat | gtt | att | cat | gcc | aaa | ata | aaa | 868 | |
| Thr | Tyr 190 | Leu | Ser | Lys | Asn | Tyr 195 | Ser | Tyr | Val | Ile | His 200 | Ala | Lys | Ile | Lys | | |
| gct | gtg | cag | agg | agt | ggc | tgc | aat | gag | gtc | aca | acg | gtg | gtg | gat | gta | 916 | |
| Ala | Val | Gln | Arg | Ser | Gly 210 | Cys | Asn | Glu | Val | Thr 215 | Thr | Val | Val | Asp | Val 220 | | |
| aaa | gag | atc | ttc | aag | tcc | tca | tca | ccc | atc | cct | cga | act | caa | gtc | ccg | 964 | |
| Lys | Glu | Ile | Phe | Lys 225 | Ser | Ser | Ser | Pro | Ile 230 | Pro | Arg | Thr | Gln | Val 235 | Pro | | |
| ctc | att | aca | aat | tct | tct | tgc | cag | tgt | cca | cac | atc | ctg | ccc | cat | caa | 1012 | |
| Leu | Ile | Thr | Asn 240 | Ser | Ser | Cys | Gln | Cys 245 | Pro | His | Ile | Leu | Pro 250 | His | Gln | | |
| gat | gtt | ctc | atc | atg | tgt | tac | gag | tgg | cgt | tca | agg | atg | atg | ctt | ctt | 1060 | |
| Asp | Val | Leu 255 | Ile | Met | Cys | Tyr | Glu 260 | Trp | Arg | Ser | Arg | Met 265 | Met | Leu | Leu | | |
| gaa | aat | tgc | tta | gtt | gaa | aaa | tgg | aga | gat | cag | ctt | agt | aaa | aga | tcc | 1108 | |
| Glu | Asn 270 | Cys | Leu | Val | Glu | Lys 275 | Trp | Arg | Asp | Gln | Leu 280 | Ser | Lys | Arg | Ser | | |
| ata | cag | tgg | gaa | gag | agg | ctg | cag | gaa | cag | cgg | aga | aca | gtt | cag | gac | 1156 | |
| Ile | Gln | Trp | Glu | Glu | Arg 290 | Leu | Gln | Glu | Gln | Arg 295 | Arg | Thr | Val | Gln | Asp 300 | | |
| aag | aag | aaa | aca | gcc | ggg | cgc | acc | agt | cgt | agt | aat | ccc | ccc | aaa | cca | 1204 | |
| Lys | Lys | Lys | Thr | Ala 305 | Gly | Arg | Thr | Ser | Arg 310 | Ser | Asn | Pro | Pro | Lys 315 | Pro | | |
| aag | gga | aag | cct | cct | gct | ccc | aaa | cca | gcc | agt | ccc | aag | aag | aac | att | 1252 | |
| Lys | Gly | Lys | Pro 320 | Pro | Ala | Pro | Lys | Pro 325 | Ala | Ser | Pro | Lys | Lys 330 | Asn | Ile | | |

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 335 340 345

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 Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Glu Gln Tyr Glu Glu Leu
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 Val Asp Val Asn Cys Ser Ala Val Leu Arg Phe Phe Phe Cys Ala Met
 65 70 75 80
 Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
 85 90 95
 Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
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 Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
 115 120 125
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 Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
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 Val Gln Glu Arg Pro Leu Asp Val Asp Cys Lys Arg Leu Ser Pro Asp
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 Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
 180 185 190
 Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
 195 200 205

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| Ser | Gly | Cys | Asn | Glu | Val | Thr | Thr | Val | Val | Asp | Val | Lys | Glu | Ile | Phe |
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| Lys | Ser | Ser | Ser | Pro | Ile | Pro | Arg | Thr | Gln | Val | Pro | Leu | Ile | Thr | Asn |
| 225 | | | | | 230 | | | | 235 | | | | | | 240 |
| Ser | Ser | Cys | Gln | Cys | Pro | His | Ile | Leu | Pro | His | Gln | Asp | Val | Leu | Ile |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Met | Cys | Tyr | Glu | Trp | Arg | Ser | Arg | Met | Met | Leu | Leu | Glu | Asn | Cys | Leu |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Val | Glu | Lys | Trp | Arg | Asp | Gln | Leu | Ser | Lys | Arg | Ser | Ile | Gln | Trp | Glu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Glu | Arg | Leu | Gln | Glu | Gln | Arg | Arg | Thr | Val | Gln | Asp | Lys | Lys | Lys | Thr |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ala | Gly | Arg | Thr | Ser | Arg | Ser | Asn | Pro | Pro | Lys | Pro | Lys | Gly | Lys | Pro |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Pro | Ala | Pro | Lys | Pro | Ala | Ser | Pro | Lys | Lys | Asn | Ile | Lys | Thr | Arg | Ser |
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